

WHAT IS CLAIMED IS:

1. A shadow mask for a cathode ray tube, comprising:

an aperture area including a plurality of apertures through which electron beams pass, the aperture area having a front surface, a center, and a circumference;

a non-aperture area extending a predetermined distance from the circumference of the aperture area; and

a skirt formed extending a predetermined distance from an outer circumference of the non-aperture area at a predetermined angle to the aperture area and the non-aperture area,

wherein the front surface of the aperture area satisfies the following conditions,

$$100\% < \text{RMV}'/\text{RMV} < 110\%$$

$$120\% < \text{RMS}/\text{RMV}' < 150\%$$

where RMV is a vertical radius of curvature of the front surface of the aperture area with respect to a vertical direction passing through a center of the aperture area, RMS is a vertical radius of curvature of the front surface of the aperture area with respect to a short side of the aperture area, and RMV' is a vertical radius of curvature of the front surface of the aperture area with respect to the vertical direction at a location on a horizontal axis passing through the center of the aperture area.

2. The shadow mask of claim 1, wherein, using a horizontal length from the center of the aperture area to an end of the short side of the aperture area as a basis, the vertical radius of curvature RMV' is positioned at a specific

location between a 1/3 point and a 2/3 point of this horizontal length from the center of the aperture area to the end of the short side of the aperture area.

3. The shadow mask of claim 2, wherein the vertical radius of curvature RMV' is positioned at substantially mid point with respect to the horizontal length.

4. A cathode ray tube, comprising:

a panel with an outer surface that is substantially flat, an inner surface that is curved, and a phosphor screen being formed on the inner surface;

a funnel connected to the panel and including a deflection yoke that is mounted to its outer circumference;

a neck connected to the funnel and including an electron gun that is mounted therein, the electron gun generating electron beams; and

a shadow mask positioned inwardly from the panel and performing color separation of the electron beams emitted from the electron gun,

the shadow mask including an aperture area having formed therein a plurality of apertures through which electron beams pass, the aperture area having a front surface, a center, and a circumference, a non-aperture area extending a predetermined distance from a circumference of the aperture area, and a skirt formed extending a predetermined distance from an outer circumference of the non-aperture area at a predetermined angle to the aperture area and the non-aperture area,

wherein the front surface of the aperture area of the shadow mask is formed satisfying the following conditions,

$$100\% < RMV'/RMV < 110\%$$

$$120\% < \text{RMS}/\text{RMV}' < 150\%$$

where RMV is a vertical radius of curvature of the front surface of the aperture area with respect to a vertical direction passing through a center of the aperture area, RMS is a vertical radius of curvature of the front surface of the aperture area with respect to a short side of the aperture area, and RMV' is a vertical radius of curvature of the front surface of the aperture area with respect to the vertical direction at a location on a horizontal axis passing through the center of the aperture area.

5. The cathode ray tube of claim 4, wherein, using a horizontal length from a center of the aperture area to an end of the short side of the aperture area as a basis, the vertical radius of curvature RMV' is positioned at a location between a 1/3 point and a 2/3 point of the horizontal length from the center of the aperture area to the end of the short side of the aperture area.

6. The cathode ray tube of claim 5, wherein the vertical radius of curvature RMV' is positioned at substantially half point with respect to the horizontal length.